acterized on morphological and behavioral characters. The behavioral distinction between *Raptiformica* and such species as *F. manni, F. bradleyi* and their relatives have not been emphasized to the fullest extent. *Raptiformica*, as interpreted and characterized by Buren, contains only dulotic species. Those species which have been excluded from *Raptiformica* do not, so far as currently available data would indicate, ever take other species as slaves. Indeed, two of these excluded species may function as slaves to *Raptiformica*. I believe that this still further justifies the exclusion of these species from *Raptiformica*.

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A NEW NITELA, SUBGENUS TENILA, WITH A KEY TO THE SPECIES OF THE SUBGENUS

(Hymenoptera: Sphecidae)

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ABSTRACT—*Nitela* (*Tenila*) **bifida**, n. sp., is described from Costa Rica. The male is unknown. A key is provided for separating *bifida* from *amazonica* Ducke and *guiana* (Williams), the other two species of the subgenus *Tenila*.

The taxon *Tenila* was described by Brèthes (1913) for *Nitela amazonica* Ducke (1903). Brèthes separated *Tenila* from *Nitela* Latreille because of rounded pronotal humeri and hairy eyes in the former. As Pate (1937) suggested, neither character is of generic significance. Recently I reviewed the situation (Menke, 1968) and proposed that *Tenila* be given subgeneric status under *Nitela*. The distinctive lamelliform frontoclypeal carina separates *Tenila* from typical *Nitela* (figs. 1, 2). Also, I pointed out that *Rhinonitela guiana*

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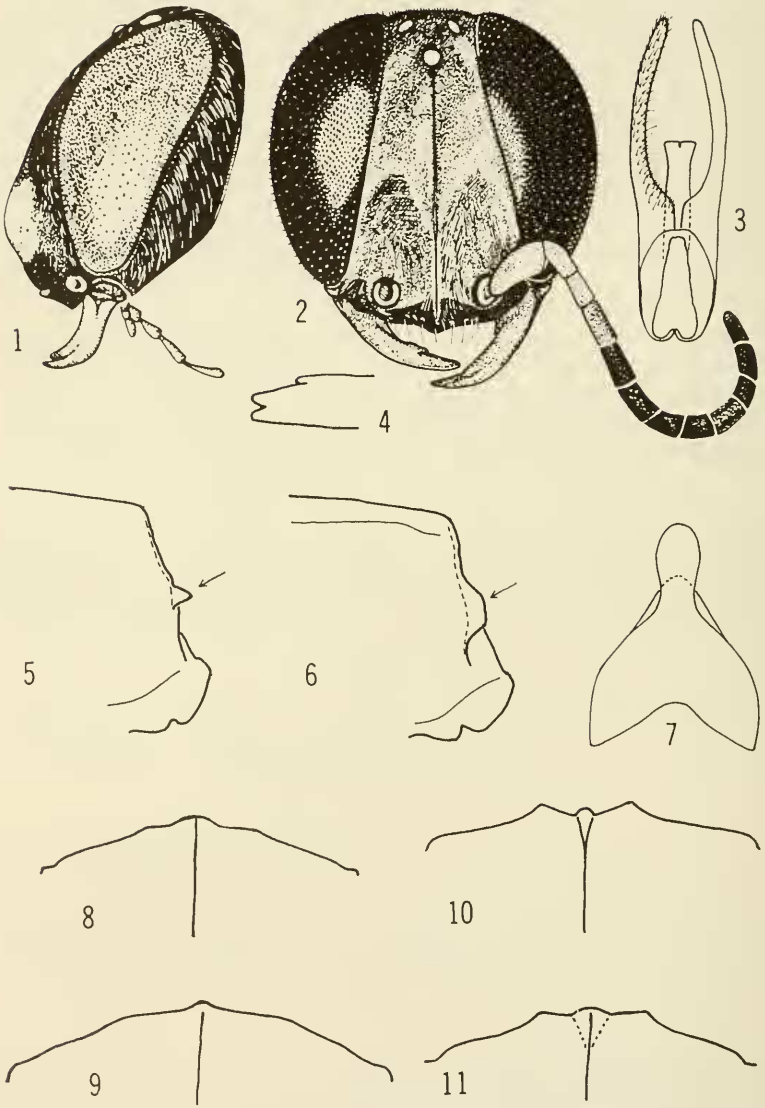

Figs. 1–11, *Nitela* (*Tenila*) spp.: 1, *bifida*, n. sp., head, lateral view; 2, *bifida*, head, anterior view (see footnote on page 199 concerning fig. 2); 3, *amazonica* Ducke, ♂ genitalia, ventral view; 4, *bifida*, mandible apex; 5, *amazonica*, lateral outline, left side of propodeum (arrow points to posterolateral process in fig. 5 & 6); 6, *guiana* (Williams), lateral outline, left side of propodeum; 7, *amazonica*, last sternite, ♂; 8, *guiana*, clypeal outline; 9, *bifida*, clypeal outline; 10, *amazonica*, ♂ clypeal outline; 11, *amazonica*, ♀ clypeal outline.

Williams (1928) should be assigned to *Tenila*. A third and undescribed species has since been found in the collection of the U.S. National Museum.

I would like to thank J. Linsley Gressitt, Bernice P. Bishop Museum, Honolulu, Hawaii, for lending the type of *N. guiana*, and R. O. Schuster, University of California, Davis, for the loan of specimens of *N. amazonica*.

Nitela (Tenila) bifida Menke, n. sp.

HOLOTYPE: Female, length 4 mm.

Color: Black; scape, pedicel, flagellomere I, frontoclypeal lamella, mandible, palpi, and pronotal lobe yellowish; flagellomere II, tegula, and humeral plate brownish; foreleg yellowish except femur, which is brownish; middle and hindlegs brown except for yellow trochanters and yellow base of hindfemur; tergite I yellowish laterally below lateral carina, remaining tergites with a brown tint laterally; wings clear, but forewing with faint clouding across middle of medial cell and around vein shared by marginal and submarginal cells, veins yellow except brown at points of clouding.

Vestiture: Antennal socket basins and clypeus with appressed silver hair; rest of body with the usual short, decumbent, pale hair found in other *Nitela* species.

Structure: Inner orbit straight from lateral ocellus to lower angles (fig. 2); ratio of least interocular to greatest interocular distance, 11:35; lateral ocellus almost touching inner orbit, separated from it by about one-third an ocellar diameter[2]; frons finely granulate, dull; frontal carina ending half the distance from the dorsal margin of the antennal socket basin to the anterior ocellus[2]; contour of frontal lamella as in fig. 1; clypeal margin with a small rounded median projection (fig. 9); malar space narrow, width equal to one-third the diameter of the mid ocellus; mandible bifid at apex and with a subapical inner tooth (fig. 4); pronotal humeri rounded, disk of collar with a posteromedian prominence defined by weak lateral depressions; surface of collar with fine arcuate rugulae laterally which curve toward scutum and which become stronger in depressions bounding posteromedian prominence; scutum dull, very densely, finely punctate, the punctures almost confluent; scutellum and metanotum dull, minutely roughened, scutellum with a slight median longitudinal elevation, and bordered anteriorly by nine pits; propodeal dorsum longitudinally ridged, the ridges connected by transverse ridges giving the surface a reticulate appearance, interspaces smooth and weakly shining; posterior surface of propodeum bordered by a circumferential carina which bears a thornlike process laterally (similar to fig. 5), surface smooth and shining, although there are a few scattered rugulae and a wedgeshaped median longitudinal area defined by a fine carina; propodeal side longitudinally ridged and with some crossridges, interspaces smooth, shining; mesopleuron dull anteriorly, somewhat shining posteriorly, minutely roughened; hypersternaulus ending opposite level of scrobe; gaster shining, impunctate; recurrent vein of forewing without an appendix.

MALE: Unknown.

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[2] Not correctly shown in fig. 2.

TYPES: *Holotype*: *female*, Turrialba, Costa Rica, 24 June 1949, K. W. Cooper, U.S.N.M. type no. 70227. One female paratype with same data except collected June 14.

Nitela bifida is readily separated from *amazonica* and *guiana* by the characters given in the key.

Nitela (Tenila) amazonica Ducke

The type of this wasp presumably is in the Museu Paraense "Emilio Goeldi" in Belém, Brazil. My interpretation of *amazonica* is based on a female from Pará (= Belém), Brazil, that was collected by Ducke and bears his determination label. This specimen is in the collection of the University of California, Davis.

The female clypeal lobe is distinctive (fig. 11). In the male the clypeal outline is somewhat different (fig. 10). The male genitalia and subgenital plate are shown by figures 3 and 7, respectively. The trons of *amazonica* is rougher than that of *bifida*. The surface appears to be either minutely reticulate or very closely, shallowly punctate. The collar is similar to that of *bifida*, but the rugulae are somewhat stronger and instead of curving toward the scutum, they are straight and run across the disk of the collar. The scutal sculpture in *amazonica* varies in the specimens at hand (6 females, 1 male). Anteriorly the scutum may be finely transversely rugulose, but in some specimens the rugulae are irregular and very weak. Many fine longitudinal rugulae extend from the posterior margin nearly to the center of the scutum. Compared with *bifida* the propodeal dorsum of *amazonica* is more uniformly, strongly, longitudinally ridged and there are fewer cross ridges.

Distribution: Ducke (1908) recorded *amazonica* from Belém (the type locality) and Barbacena, Minas Gerais, Brazil. Brèthes (1913) cited it from Nova Friburgo, Brazil. I have seen material from the following localities: Brazil: Nova Teutonia, Santa Catarina, 9 October to 10 April, Fritz Plaumann, 1 male, 4 females (Univ. of California, Davis); Trinidad, April, E. McC. Callan, 1 female (U. S. National Museum).

Nitela (Tenila) guiana (Williams)

As indicated in the key, *guiana* differs from *amazonica* and *bifida* in a number of structural features. The color of *guiana* is also distinctive. The antenna, clypeus, frontoclypeal lamella, mandible, palpi, legs, prothorax, scutum (except posteromedially), scutellum, metanotum, and the mesopleuron above the hypersternaulus are yellowish. The gaster is brownish with yellowish sides, and the last segment is yellow. Because *guiana* is known only by the holotype, it is impossible to tell whether this color pattern is constant.

The clypeal outline of *guiana* is intermediate between that of *bifida* and *amazonica* (fig. 8). The collar of *guiana* lacks transverse rugulae and does not have the posteromedian prominence and attending depressions found in the other two species. The scutum appears to be finely granulate and shallowly punctate. Approximately twelve longitudinal ridges originate at the posterior margin of the scutum. The propodeal dorsum does not have regular longitudinal ridging, but instead is reticulate or foveolate and shiny. The posterior surface of the propodeum is weakly, irregularly rugulose. The last tergite is weakly flattened and has a discal dimple. The surface of the last tergite in *amazonica* and *bifida* is uniformly arcuate.

The type locality of *guiana* is Blairmont, Guyana.

Key to the Species of the Subgenus **Tenila**[3]

1. Propodeum with a thornlike projection posterolaterally (fig. 5); hypersternaulus not reaching base of midcoxa but ending at level or slightly beyond level of scrobe; malar space present; thorax black except for pronotal lobe and tegula 2

   Propodeum with a lamelliform projection posterolaterally (fig. 6); hypersternaulus attaining precoxal sulcus (which is in front of anterior margin of midcoxal cavity); malar space absent; pronotum completely and mesopleuron extensively yellowish ..... **guiana** (Williams)

2. Clypeal margin with a truncate median lobe, the free edge of which is sinuate (fig. 11); mandible apex simple; posterior surface of propodeum reticulate or irregularly rugulose; lateral ocellus separated from inner orbit by a distance equal to two-thirds or more of an ocellus diameter; inner orbit sinuate ..... **amazonica** Ducke

   Clypeal margin with a small median projection (fig. 9); mandible apex bifid (fig. 4); posterior surface of propodeum smooth except for marginal rugulae; lateral ocellus separated from inner orbit by a distance equal to less than one-third of an ocellus diameter; inner orbit straight ..... **bifida** Menke

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[3] Based on females; the male is known for only one species, *amazonica*.